

COURSE DESCRIPTION

Environmental Systems & Societies combines ideas and information from biology, chemistry and earth sciences, as well as the social science fields of economics and political science. Topics of study include water, energy, air and chemical cycles and systems, soil and biome processes, population and land development dynamics, human history and influences, community and ecosystem processes, natural resource exploitation and impacts, environmental economics and policy, and future choices.

Laboratory, field and internet-based research and investigations are emphasized to familiarize students with contemporary research, investigative and problem-solving techniques. Students analyze environmental problems, evaluate risks, collect data, prepare assessments, and investigate complex issues and solutions to prevent, resolve or mitigate environmental problems. Extensive field investigations, field trips and problem-solving exercises will focus on in-depth analysis of specific environmental topics and issues.

This course is offered at the SL level over two years. ESS is comprised of 120 course hours and 30 hours of internal assessment.

Topics (over two years)
Topic 1. Systems and Models
Topic 2. The Ecosystem
Topic 3. Populations
Topic 4. Biodiversity & Conservation
Topic 5. Pollution
Topic 6. Environmental Value Systems

The Assessment

→ *Internal Assessment:* The Internal Assessment (IA) is the practical work that is carried out in class and is assessed by the teacher (but moderated externally). It is worth 20% of the final diploma grade. Practical work is graded according to criteria set by the IB. These criteria are **Planning** (research question, variables, materials and procedure), **Data collection and processing** (recording data, calculations, presentation of data), **Discussion, evaluation and conclusion**, and **Personal skills** (carrying out techniques, working collaboratively, safety).

Completion of the Group 4 project is also part of the internal assessment. It is a collaborative project between all of the science disciplines (i.e. Group 4 IB courses).

→ *External Assessment:* The external DP assessment consists of 2 written papers. These papers make up 80% of the final grade. There is no multiple choice on the external assessments.

Paper 1: is made up of short answer and data based questions. A calculator is required for this paper. This is a 1 hour paper and is worth 30% of the final grade.

Paper 2: is a 2 hour paper and is worth 50% of the final grade. Section A, presents you with a range of data relating to a specific case study. Students are required to analyze this data. In section B, you will be given a choice of four structured essay questions from which you must select two. A calculator is required for this paper also.



WESTERN ACADEMY OF BEIJING

GRADE 11 ESS SCIENCE OVERVIEW 2012/13



WEEK	EVENTS	TOPIC NAME	ASSESSMENT TASKS
1 (14 Aug) -3	14,15,16 PD		
2 (21 Aug)		Biodiversity & Conservation	IA. Evaluating Biodiversity
3 (28 Aug)			
4 (4 Sep)			
5 (11 Sep) -5	China Studies	Grade 9 -11 China Studies	
6 (18 Sep)			
7 (24 Sep)	Field Trip		
HOLIDAY			
8 (8 Oct)			
9 (15 Oct)			IA. Ecosystems
10 (22 Oct)			
11 (29 Oct)		The Ecosystem & Systems Science	
12 (5 Nov) -2	Staff PD 8&9		
13 (12 Nov)			
14 (19 Nov)			IA. Developing a System
15 (26 Nov)			
16 (3 Dec)			
17 (10 Dec)			
HOLIDAY			
18 (7 Jan)			
19 (14 Jan)			
20 (21 Jan)		Populations	IA. Obituaries
21 (28 Jan)			
22 (4 Feb)			
HOLIDAY			
23 (18 Feb)			
24 (25 Feb)			
25 (4 Mar)		Agriculture & Soil Science	IA. Soil Science
26 (11 Mar)			
27 (18 Mar)			
28 (25 Mar)			
HOLIDAY			
29 (8 Apr)			
30 (15 Apr)		Water Resources	IA. Water Testing
31 (22 Apr)			
32 (29 Apr) -1	May 1 holiday		
33 (6 May)			
34 (13 May)		Natural Capital	
35 (20 May)			
36 (27 May)	Year end Exam week	G 9/10/11 Exams	
37 (3 June)		Experiential Week	
38 (10 June)	June 11 last day of school		
HOLIDAY			

MATERIALS

- Environmental Systems and Societies Course Companion by Jill Rutherford.
- While many notes will be provided for you, we expect you to come to every lesson prepared with pens (more than one!!), pencils, ruler and paper or a notebook. You will always need your laptop and charger.

Expectations

In order to be successful students of DP Biology you will be expected to take greater initiative with and responsibility for your own learning. Some of the expectations of you as IB students are outlined below:

Students will...

- Be present and on time to class. The time given for the start of the lesson is when work begins, not when you should be entering the room.
- Display a positive attitude, participate constructively in class discussions and use class time effectively to complete biology assignments or labs.
- **Pay attention to and follow all safety guidelines when doing any labs or activities.**
- Turn in assignments on time. *See WAB Science Dept. Guidelines for details.*
- Make up work due to absences— **make-up tests are more difficult than the original and missing tests will affect your final mark!** *See WAB Science Dept. Guidelines for details*
- Be prepared by keeping up with the reading and homework assignments. It will be critical for students to read about topics **before** they are covered in class lectures, labs or activities.
- Make sure all work is your own even if you collected data in as part of a group. Any plagiarism on IB assignments may result in you not receiving your IB Diploma! (see plagiarism section below)
- Cite all external sources accurately. Be careful not to plagiarize! WAB will be using the web-based service www.turnitin.com this year to assess whether or not a student has plagiarized on an assignment.
- Follow Guidelines on next page

In Class

All students in the class have a right to learn and we have the right to teach. Courtesy and respect to yourself, others and the classroom environment should be shown at all times.

At Home

As a DP student you should be **averaging at least ½ hour** of work each day for this course. You should expect homework after almost every lesson. Regular review is an essential part of the course. Having a study timetable for yourself will help you find time to complete sufficient review in all of your subjects.

Missed Classes

You are expected to read and follow the attendance policy in the student handbook. Should you, for whatever reason, miss a class or work, it is **your** responsibility to catch up. We will not come looking for you to give you work or tell you about tests or assignments. Remember to check Moodle to see what lessons you missed while you were away. You may always come and see us personally or e-mail me at claire_hellendag@wab.edu or oliver_picton@wab.edu

WAB Assessment and Grading

Tests: All questions on tests will be IB or IB style questions. They will be graded according to IB mark schemes. Questions generally begin with a verb. These verbs indicate a specific way of responding to a question. Definitions of the verbs are given on the last page.

Lab Reports: All practical work will be graded according to the IB criteria to give an IB score of 0-6 for each criterion assessed. Not all practical work will count towards your grade and the cover sheet will indicate whether it is an assessed piece of work.

Plagiarism: It is expected that all work submitted reflects your own thinking or is properly referenced. It is unethical to use someone's ideas (a friend's, a website's, or a published author's) and pass them off as your own. All ideas that are not your own should be cited in MLA Format and be included in a bibliography.

Extensions: If you feel you need an extension for an assignment you should speak to me well before the due date. **Requests on the due date will not be granted.** Do not assume that any extension will be given.

Having Problems?

COME AND SEE US! Whether you have a problem with the course content, getting started (or finished!) on an assignment or knowing how to approach your studies, please come and talk to us – the sooner the better. We are available during most of our prep-periods, lunch, after school or by appointment. You may also email me at claire_hellendag@wab.edu or oliver_picton@wab.edu
